In The Specification:

Page 9, paragraph "[0029]", rewrite to read:

[0029] Figure 8 illustrates a top view of an embodiment of the handheld detection device, with sections removed to illustrate the interior thereof.

Page 11, paragraph "[0038]", rewrite to read:

[0038] The process of the portable pathogen detection system is illustrated in Figure 4-6 and 7A-7C. Sample 10 is added to a cuvet 11 containing optically encoded microbeads 12. Each microbead 12 contains a capture ligand a, b, and c and bioagent-specific antibodies d, e, and f. Each microbead, in addition to the standard sample capture assay, contains special attachment sites. The cuvet 11 is then placed in a mixing holder as indicated by arrow 13 and as shown in Figure 5 (see Figure 8 and 9), providing time for the targeted biological sample to adequately bind the microbeads, as indicated at d' and e'. Then, as indicated by arrow 14, fluorescent reporter labeled antibodies 15 are added to cuvet 11, see Figure 6, that attach to the microbead bound sample 12^1. Then, as indicated by arrow 16, a disposable capture substrate 17 containing a patterned array of attachment sites 18, see Figure 7B, is inserted as indicated by arrow 19, see Figure 7A, into the cuvet 11. Each attachment site 18 of the array on the disposable capture substrate 17, as seen in Figure 7B, is designed to capture a single bead 12 or 12^1, with the spatial distance between each site 18 determined by the resolution of the optical detections systems. After the microbeads 12 and 12^1 are attached to the sites 18 of substrate 17, as shown in Figure 7C, the substrate 17 is removed from cuvet 11 located in the mixing holder and placed in a wash receptacle. This wash step improves the sensitivity of the detection process by removing from the disposable capture substrate surface all unbound biological constituents and reducing the background solution florescence. Finally, the disposable microbead capture array is

placed in a detection shot or reaction chamber, see Figures 8 and 9, where the microbeads are optically decoded for proper identification and measurement of target biological molecules.

Page 12, paragraph "**[0039]**", rewrite to read:

[0039] The principal components of the portable pathogen detection system as illustrated in the embodiment of Figures 8 and 9, are: 1) optically encoded microbead reagents (bead pack), 2) mixing chambers located in a vibration unit, 3) disposable substrate with ordered microbead attachment array, and 4) optical analyzers each principal component being described in detail below. As shown, the portable pathogen detection system of Figures 8 and 9 is a handheld device and comprises a casing or housing 20 which can be held in a human hand 21, the housing 20 including a plurality of mixing chambers 22 within which bead packs 23, see Figure 9, are located within a vibration or mixing unit 24, an opening 25 within which is located one or more disposable capture substrates 26 for storage purposes prior to insertion thereof into a bead pack 23, see Figure 9, a reaction chamber 27 into which a disposable capture substrate 26 is finally positioned for at least washing thereof, see Figure 9, and an analyzer generally indicated at 28 having indicators generally indicated at 29 and 29' on the face of housing 20. The above mentioned four (4) principle components are further described as follows:

In The Claims:

Claims 1, 3-5, 8, and 9, amend to read as follows:

1. (Amended) A method for pathogen detection comprising:

containing optically encoded microbeads,

adding a sample and capture ligand to the contained microbeads,